FIG. 1

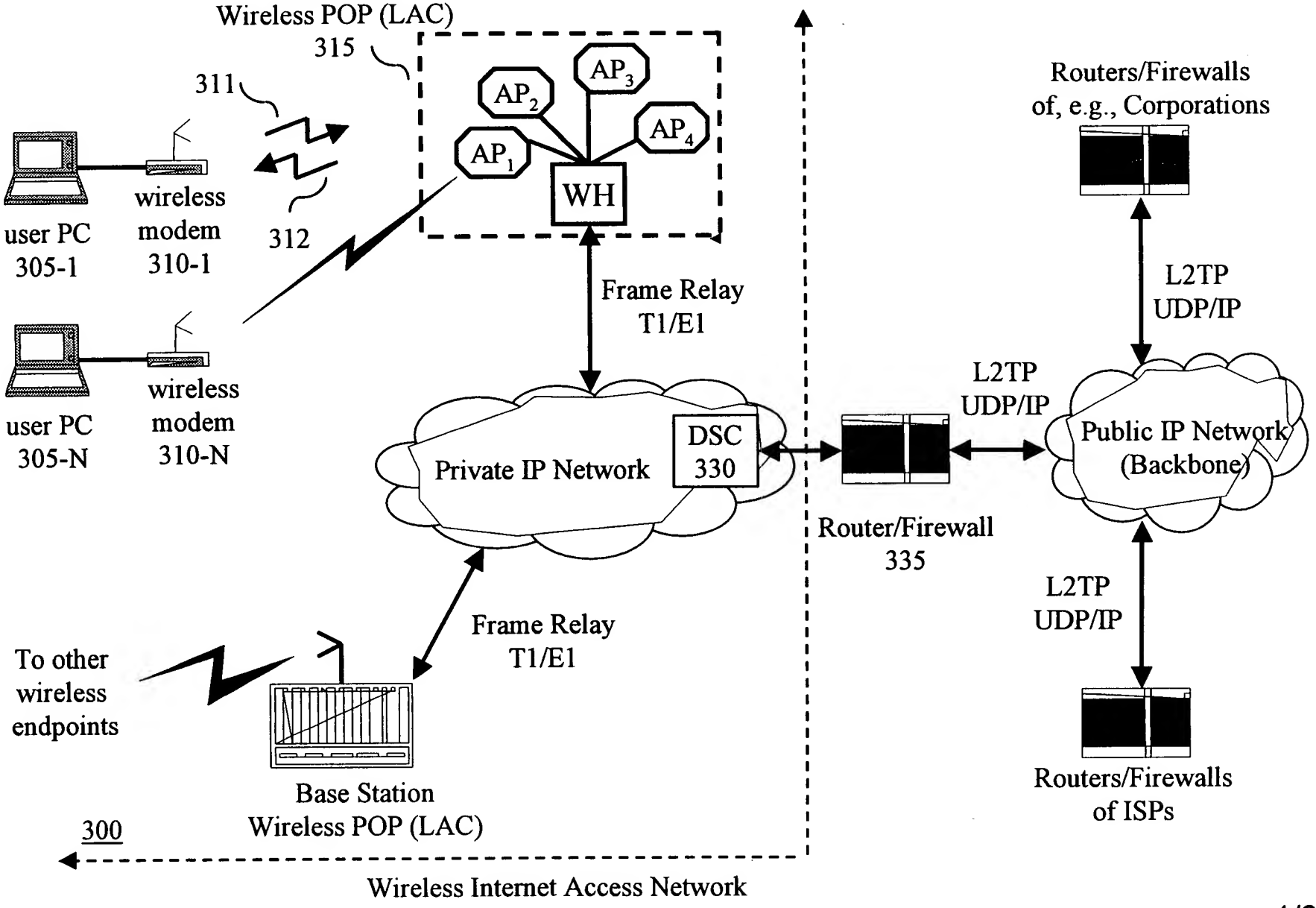

Base Station
Wireless POP (LAC)
315
311
312
AP1
AP2
AP3
AP4
WH
user PC
305-1
wireless
modem
310-1
user PC
305-N
wireless
modem
310-N
Frame Relay
T1/E1
Private IP Network
DSC
330
Router/Firewall
335
L2TP
UDP/IP
Public IP Network
(Backbone)
Routers/Firewalls
of, e.g., Corporations
L2TP
UDP/IP
L2TP
UDP/IP
Routers/Firewalls
of ISPs
Frame Relay
T1/E1
To other
wireless
endpoints
Base Station
Wireless POP (LAC)
300
Wireless Internet Access Network

FIG. 2

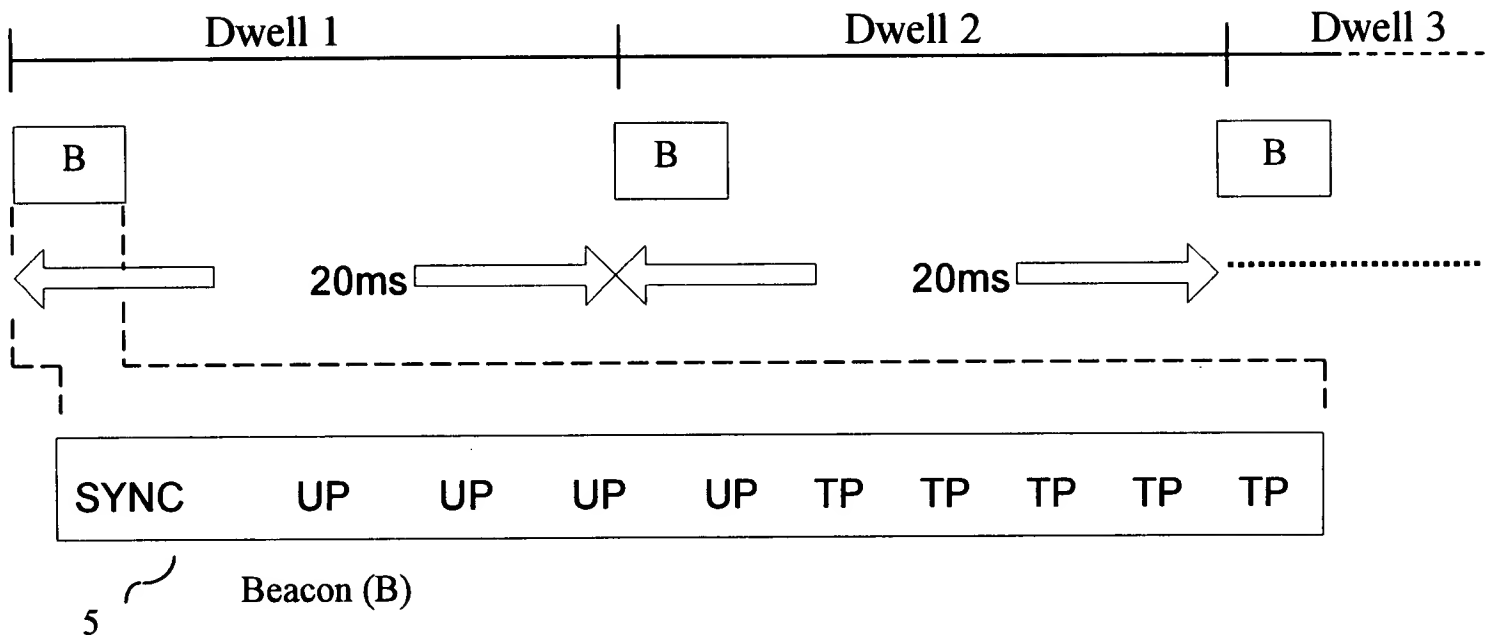

Dwell 1
Dwell 2
Dwell 3
B
B
B
20ms
20ms
SYNC
UP
UP
UP
UP
TP
TP
TP
TP
TP
5
Beacon (B)

FIG. 3

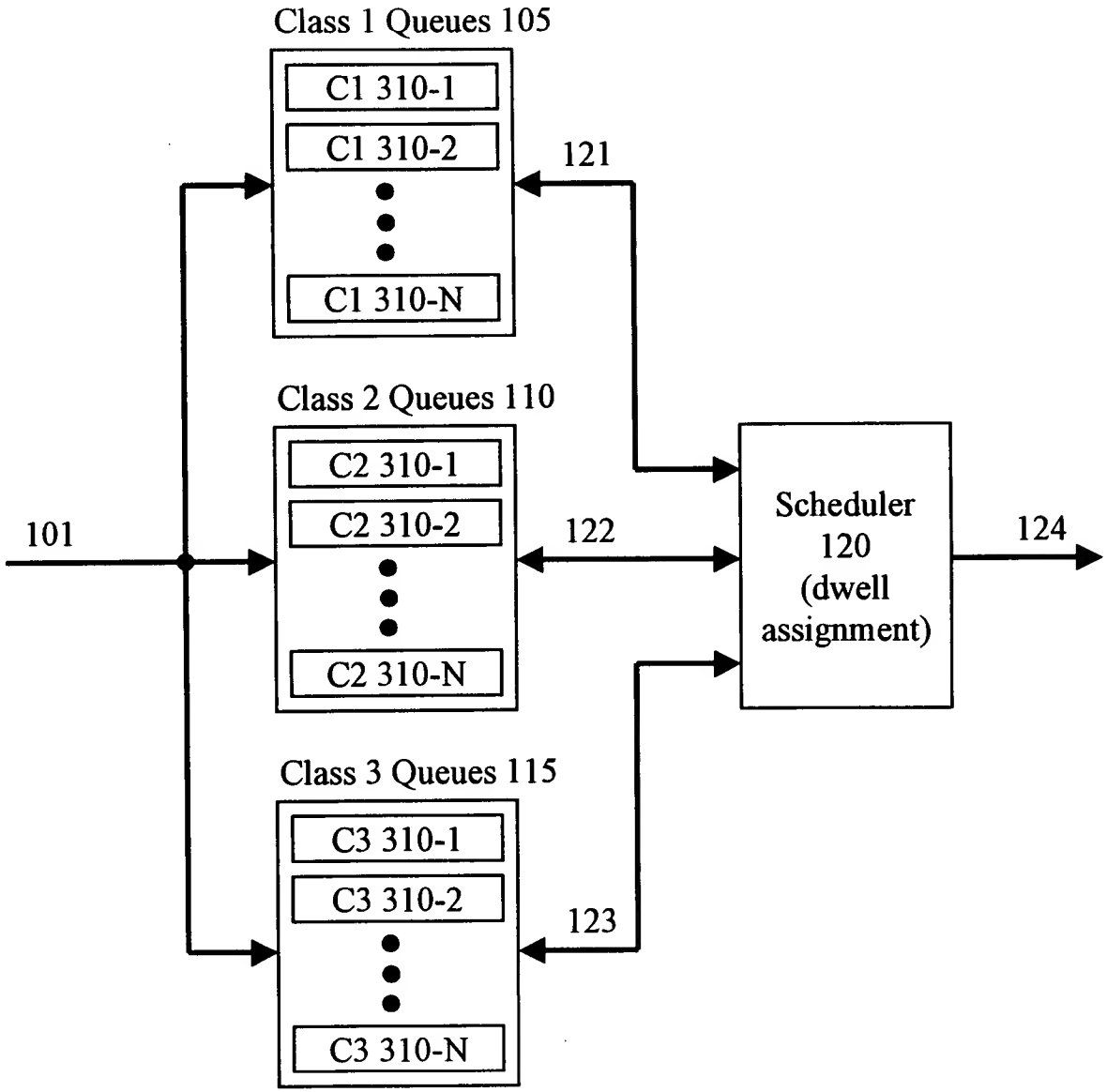

Class 1 Queues 105
C1 310-1
C1 310-2
C1 310-N
121
Class 2 Queues 110
C2 310-1
C2 310-2
C2 310-N
101
122
Scheduler
120
(dwell
assignment)
124
Class 3 Queues 115
C3 310-1
C3 310-2
C3 310-N
123
100

FIG. 4

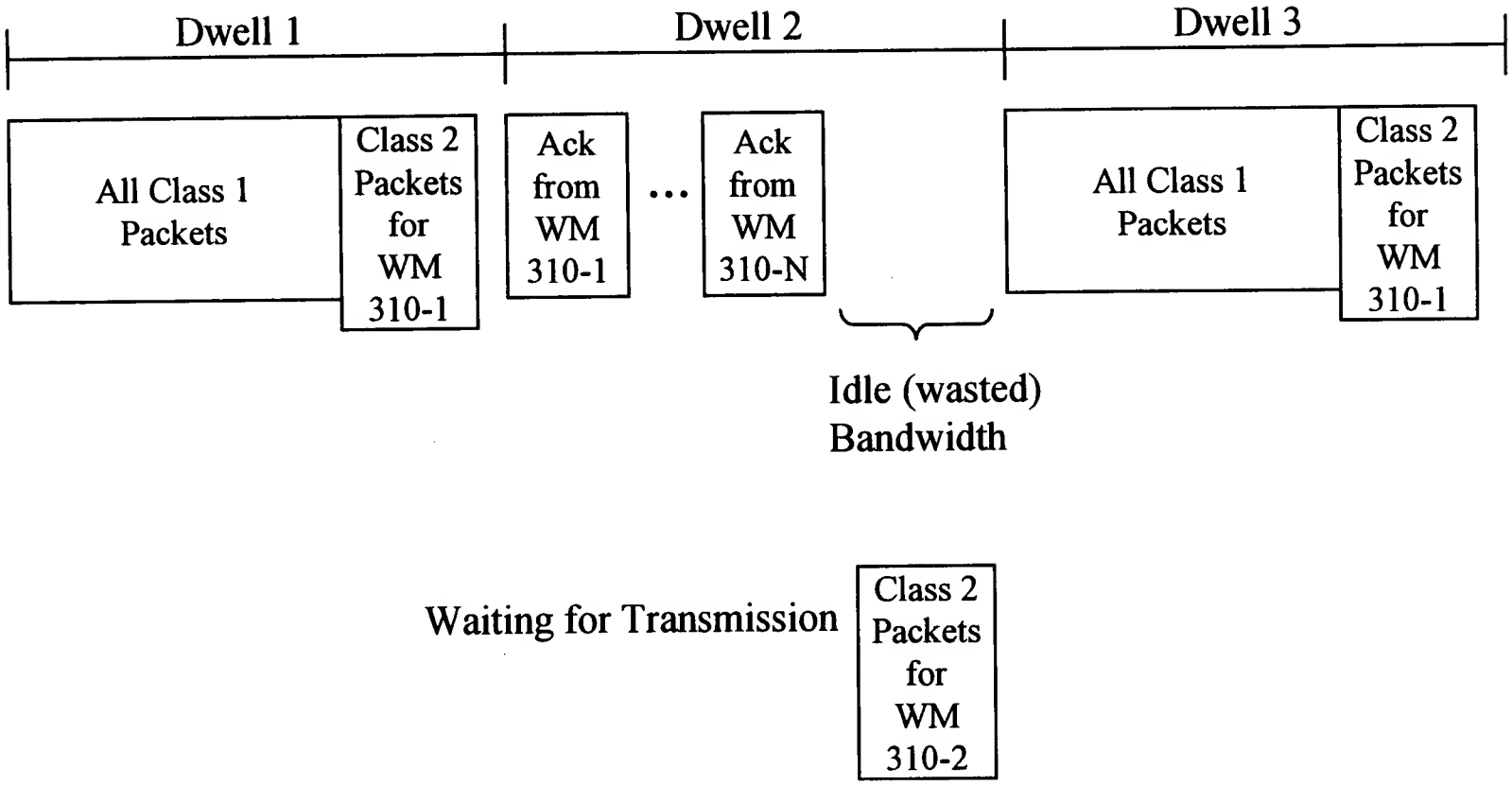

Dwell 1
Dwell 2
Dwell 3
All Class 1 Packets
Class 2 Packets for WM 310-1
Ack from WM 310-1
...
Ack from WM 310-N
All Class 1 Packets
Class 2 Packets for WM 310-1
Idle (wasted) Bandwidth
Waiting for Transmission
Class 2 Packets for WM 310-2

FIG. 5

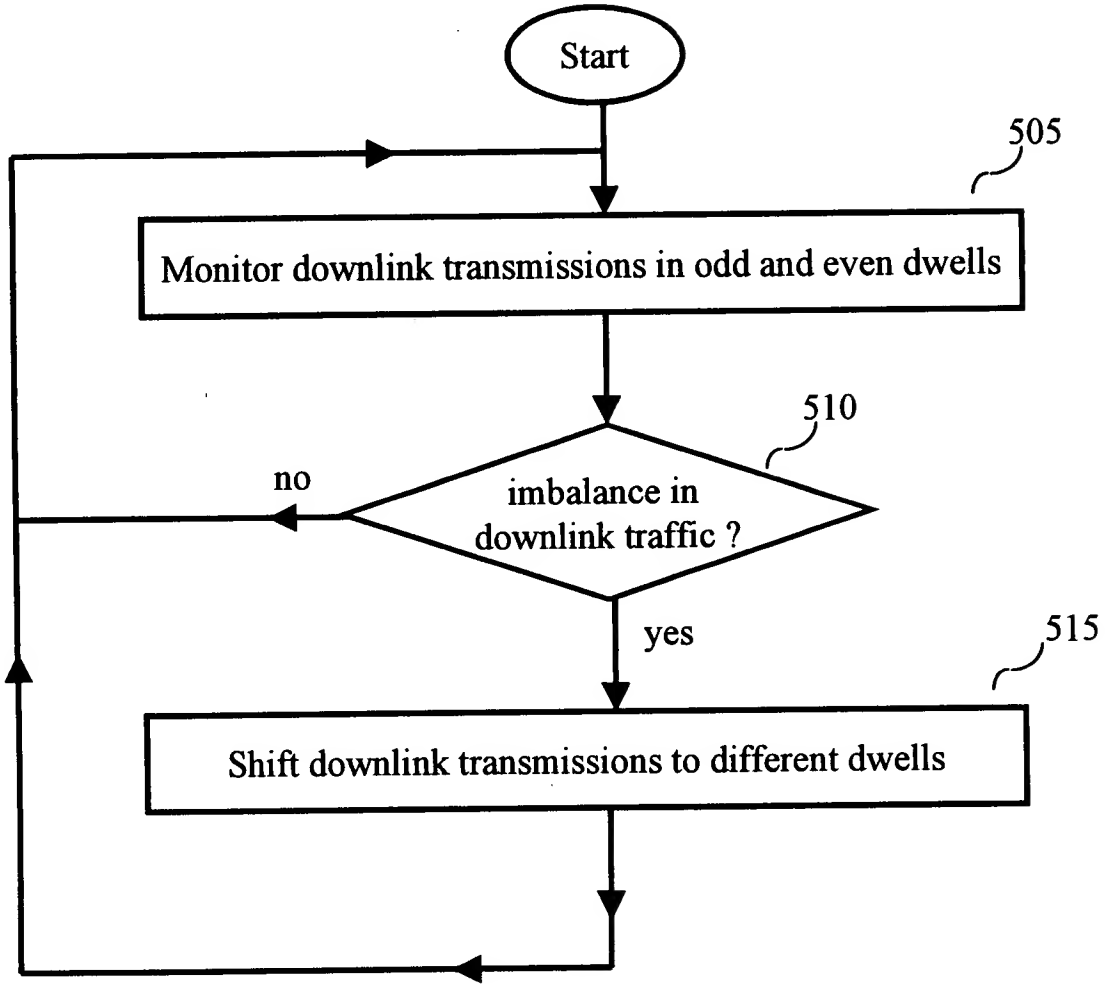
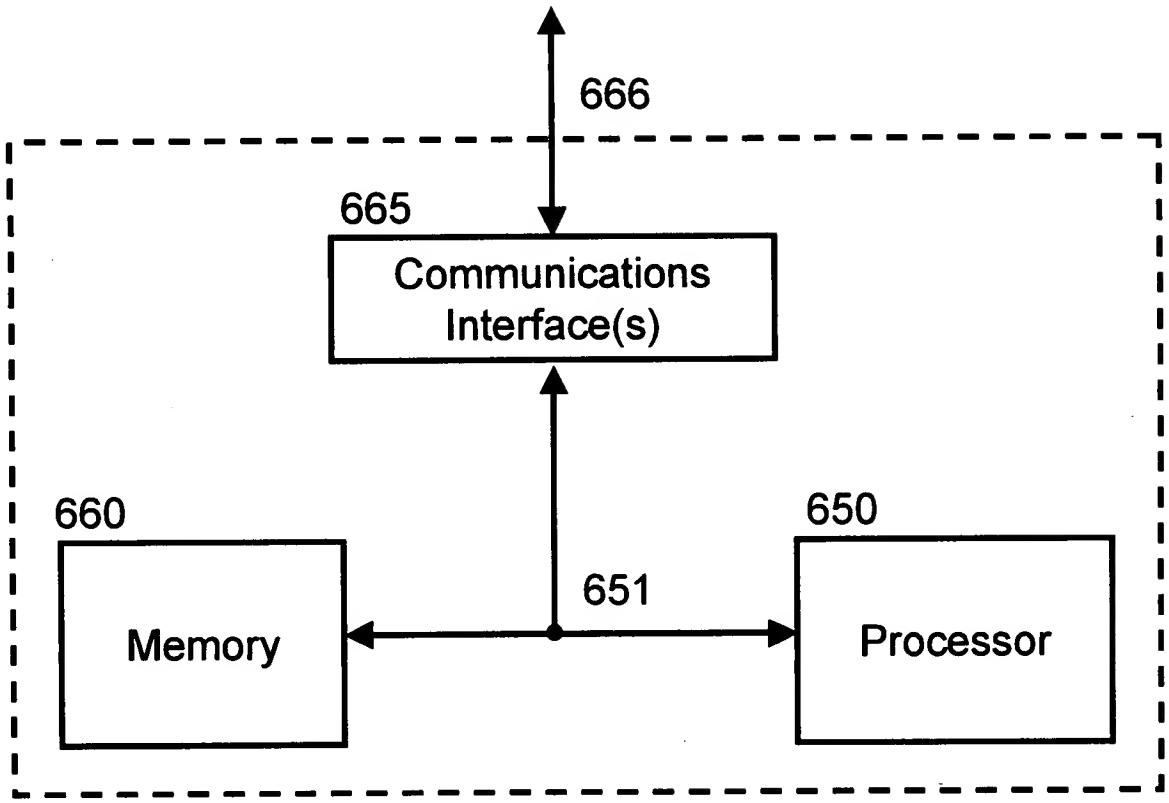

Start
505
Monitor downlink transmissions in odd and even dwells
510
imbalance in downlink traffic ?
no
yes
515
Shift downlink transmissions to different dwells

FIG. 6


666
665
Communications Interface(s)
660
Memory
651
650
Processor
605